THE CONTINUITY OF SPECIAL ITEMS AND THE LIKELIHOOD OF INCOME CLASSIFICATION SHIFTING

ABSTRACT

Income classification shifting is identified as the third form of earnings management that managers use, in addition to accrual-based and real earnings management. Income classification shifting is arguably less costly than the other two forms of earnings management (McVay 2006; Abernathy et al. 2014). However, there is a potential cost of classification shifting - the higher likelihood of missing the market expectations in subsequent periods because shifted core earnings of the current period 1) could bias upward analysts' forecasts for the subsequent periods and 2) would recur as core expenses unless firms can continuously shift their core expenses to special items in future periods. This paper hypothesizes that when firms have special items that allow them to shift income consecutively, they are more likely to engage in classification shifting by consecutively shifting, reducing potential costs. Consistent with expectations, the findings show that firms which report special items that tend to continue over multiple quarters (continuous special items) are more likely to classification shift than firms that report special items which tend not to continue over multiple quarters (non-continuous special items). Furthermore, this study documents that the difference in the likelihood of shifting between continuous and non-continuous special items is more pronounced for the first but not the last occurrence of a series of the same special item across time. The findings highlight the potential cost of classification shifting and its impact on a firm's shifting behavior and offer valuable insight for investors and auditors when they assess the likelihood of classification shifting and the quality of earnings.

Keywords: earnings management, income classification shifting, special items

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1. INTRODUCTION

This study examines whether firms are more likely to income classification shift when they report special items that allow them to shift income consecutively. Income classification shifting refers to management's attempt to boost core earnings through the intentional misclassification of core expenses, such as cost of goods sold and selling and administrative (operating) expenses, into non-core items, including special items and discontinued operations. An example is recording severance pay due to routine retirements and terminations as part of a restructuring charge. Prior studies state that income classification shifting has advantages over other earnings management tools such as accrual management and real earnings management. For example, McVay (2006) posits that unlike accrual management and real earnings management, which can affect future earnings, income classification shifting will not affect future bottom-line earnings since classification shifting simply involves reporting regular operating expenses as non-recurring special items or discontinued operations. In addition, because income classification shifting does not change net income, it is potentially subject to less scrutiny by auditors and regulators than accrual and real earnings management, which do affect net income.

However, income classification shifting may incur a potential cost - the higher likelihood of missing market expectations in subsequent periods.[1] Managers engage in classification shifting

[1] McVay (2006) did recognize that all three types of earnings management increase future earnings expectations but suggested that the adverse impact of heightened earnings targets for income classification shifting is much less because future earnings will be the same when firms classification shift income; whereas accruals management and real earnings management will further reduce earnings. However, we highlight the fact that classification shifting increases the market expectation of "core" earnings, which will be lower in the future when core expenses recur absent any additional classification shifting. We highlight the potential cost of missing market expectations of core earnings due to classification shifting and provide evidence that concerns with this cost play a role in management's decision to classification shift.

to influence analysts and investors' perceptions of a company's core earnings. By classifying current quarter core operating expenses as non-core special items, managers attempt to increase core earnings used by analysts and investors to forecast future earnings and value a firm.[2] If managers succeed in managing analysts' perception of core earnings for the current period, however, they could face a higher target to meet or beat in the subsequent periods because analysts' forecasts for subsequent periods may be based on shifted core earnings of the current period. Consequently, firms that successfully manage analysts' perceptions of current quarter core earnings to meet or beat their earnings targets in the current period may face higher market expectations in future periods. Another drawback of using classification shifting to meet market expectations in the current period is that shifted core expenses are likely to recur as core expenses in future periods. As a result, when core expenses recur in subsequent periods, firms may face a double whammy - lower core earnings and higher earnings expectations, resulting in a higher likelihood of missing earnings targets in future periods.

We classify a firm as a classification shifter if it has positive quarterly unexpected core earnings and its quarterly analyst earnings per share forecast is greater than the firm's quarterly basic earnings per share (Athanasakou et al. 2011; Abernathy et al. 2014). Given the significant adverse market reaction when firms miss market expectations (Kasznik and McNichols 2002; Skinner and Sloan 2002; Rees and Sivaramakrishnan 2007), managers are less likely to engage in income classification shifting in the current period if they anticipate a higher likelihood of missing market expectations in future periods. However, firms can reduce such potential costs of classification shifting if they can consecutively shift income across time. Since firms typically shift

[2] For brevity, we often use the term 'special items' to mean both special items and discontinued operations.

core expenses to non-recurring special items, whether they can continue to shift income in subsequent periods can depend on whether they can report special items consecutively.[3]

Although, by definition, special items are supposed to be infrequent or unusual, some special items are likely to continue over multiple quarters while others are likely to occur only in one or two quarters.[4] Therefore, whether firms can continue to shift their income in subsequent periods may depend on whether they can report special items consecutively. Thus, if managers evaluate the costs and benefits before they engage in income classification shifting, they may be more likely to classification shift when they have special items that allow them to shift their income consecutively and reduce the potential cost of classification shifting.

We examine whether firms are more likely to shift their income when they report special items that are likely to continue over multiple quarters than special items that are not likely to continue over multiple quarters. Thus, we classify special items components and discontinued operations provided by *Compustat* into continuous special items and non-continuous special items. Specifically, we classify discontinued operations, restructuring charges, and acquisition/merger costs as continuous special items and all other special items as non-continuous special items.[5]

We find that firms are more likely to shift their income when they report continuous special items than non-continuous special items, indicating that firms weigh the costs of income classification shifting in their decision to shift. Also, when we examine series of specific continuous and non-continuous special items, we find that firms are more likely to shift their

[3] Even if a firm can shift core expenses into a special item consecutively, the special item will likely only continue for a small number of quarters. However, the ability to shift income consecutively allows the firm to 'buy time' until financial performance improves or until it has future earnings management opportunities.

[4] For example, discontinued operations, acquisition/merger-related costs, and restructuring costs are related to organizational changes that take time to execute and implement. These special items tend to occur over multiple quarters. In contrast, the sale of assets that results in gains or losses or asset write-downs typically occur in one quarter.

[5] For details on the components of COMPUSTAT special items, please see Appendix 2.

income in a quarter when the special item is the first in a series of continuous special items than when it is the first in a series of non-continuous special items. On the other hand, for special items that occur last in a series of specific special items, we find no significant difference in the likelihood of classification shifting between continuous and non-continuous special items. These results indicate that firms consider the potential costs of classification shifting and are more likely to undertake classification shifting when the special items allow them to shift consecutively to reduce such costs.

Our study contributes to the literature on income classification shifting. Prior studies document the existence of income classification shifting (McVay 2006; Fan et al. 2010; Barua et al. 2010; Haw et al. 2011) and the market's mispricing of income classification shifting (Alfonso et al. 2015), suggesting that managers appear to exploit the benefits of classification shifting. However, there is little discussion on the cost of classification shifting and its implication for management's decision to engage in classification shifting. Our study shows that managers are more likely to shift income when they can reduce the potential costs of missing analysts' expectations in subsequent periods by shifting their income through continuous special items.

This research also offers valuable insights for investors and auditors when they assess the likelihood of income classification shifting and the quality of earnings. Income classification shifting and the reporting of special items have increased significantly in recent years (Cain et al. 2019; see Table 2, Panel C of our paper). However, the capital market and its participants do not fully understand the composition of special items and income classification shifting (Alfonso et al. 2015, Pan et al. 2019). Knowing incentives and circumstances in which firms are likely to engage in classification shifting will help financial statement users assess the likelihood of classification shifting and to analyze special items. Our findings indicate that when firms report

continuous special items, especially when a specific continuous special item appears first in a consecutive string, firms are more likely to engage in classification shifting.

In addition, our study provides an explanation for why firms that report discontinued operations and restructuring charges are more likely to engage in income classification shifting (Kinney and Trezevant 1997; Barua et al. 2010). Our findings suggest that firms face lower potential costs of income classification shifting when they report discontinued operations or restructuring charges because those special items are more likely to occur continuously over multiple quarters, allowing firms to shift income consecutively.

The rest of the paper proceeds as follows. Section 2 provides background information and a literature review. Section 3 develops our hypotheses. Section 4 describes the research design and section 5 provides information on the sample selection and descriptive statistics. Section 6 explains the main results while section 7 offers additional results. Finally, section 8 concludes.

2. BACKGROUND AND LITERATURE REVIEW

The FASB states that the objective of financial reporting is to provide financial information that is useful to investors and creditors in making decisions regarding providing resources to an entity (SFAC No 8, FASB 2010). To make decisions, users of financial information rely directly or indirectly on an assessment of the reporting entity's future net cash inflows. Financial statements provide much of the information needed to assess future net cash inflows (FASB 2010). When reporting entities prepare financial statements, they categorize and present data into line items and subtotals, over which management has significant discretion. The FASB's proposed Statement of Financial Accounting Concepts (SFAC) No. 8, Chapter 7 (*Presentation*), Paragraph 36, states that creating line items that include classes of items that are close to homogenous is a

critical aspect of presentation. It also posits that homogeneity enhances the ability to represent line items (FASB, 2016).[6] However, the homogeneity of line items is mainly under management's discretion.

How line items are categorized and presented on an income statement has significant influence on a firm's valuation (Lipe 1986; Ohlson and Penman 1992; Fairfield et al. 1996; Alfonso et al. 2015). Once management provides an income statement, users arrange line items, subtotals, and totals in a way that they believe is most useful in assessing future cash flows and earnings (Bradshaw and Sloan 2002; Gu and Chen, 2004). Prior literature documents that the capital market tends to weigh persistent earnings components more in firm valuation than transitory earnings components (Lipe 1986; Elliott and Shaw 1996; Bradshaw and Sloan 2002). Thus, it is an essential task for users of income statements to distinguish persistent earnings components from transitory earnings components. Academia and *Computstat* often classify these transitory earnings components as special items (Gu and Chen, 2004; McVay 2006). Prior studies on special items show that they are different from more persistent earnings components in relation to future earnings and firm valuation (Elliott and Hanna, 1996; Fairfield et al., 1996). The presentation of an income statement that distinguishes special items from more persistent earnings components such as cost of goods sold and operating expenses is indeed informative for users to assess the predictability of earnings and to value a firm (Fairfield et al. 1996; Burgstahler et al. 2002). These findings support the *informative view* of the reporting of special items. In addition to special items as defined in *Compustat*, discontinued operation gains and losses is a transitory item. Accounting standards require discontinued operations to be reported separately from income from continuing operations (SFAS No. 144 (now ASC 205-20)).

[6] https://asc.fasb.org/imageRoot/88/89617388.pdf

In contrast to the informative view of reporting special items, the *opportunistic view* of reporting special items argues that managers use special items to manage earnings and/or the perception of earnings. Both Kinney and Trezevant (1997) and Reidl and Srinivasan (2010) find that firms are more likely to aggregate income increasing special items with other items on one line in the income statement and report the individual income-increasing items in the footnotes. On the other hand, firms are more likely to report income decreasing special items in the income statement as separate line items to emphasize the transitory nature of those items. Givoly and Hayn (1996) document that firms report income-decreasing discretionary or semi-discretionary special items when earnings excluding those special items has declined significantly, supporting a big bath hypothesis. On the other hand, they use positive semi-discretionary special items such as gains on the sale of assets to smooth declining earnings. McVay (2006) shows that income classification shifting is more prevalent to meet analysts' forecast benchmarks.

Income classification shifting refers to management's attempt to boost core earnings through the intentional misclassification of core expenses, such as cost of goods sold and selling and administrative (operating) expenses, into non-core items, including special items and discontinued operations. Such income classification shifting has been recognized as the third form of earnings management, in addition to accruals management and real earnings management. Research has documented management's income classification shifting behavior. For instance, drawing on annual U.S. data, McVay (2006) develops a model to estimate unexpected core earnings and finds a positive relationship between unexpected annual core earnings and income-decreasing special items. This suggests that core expenses are shifted to special items to inflate core earnings. Fan et al. (2010) extend McVay (2006) to quarterly earnings and document that classification shifting is more prominent in the fourth quarter than in interim quarters. Barua et al.

(2010) show that management shifts core expenses to income-decreasing discontinued operations to inflate core earnings. As an earnings management apparatus, income classification shifting is used to meet analysts' earnings forecasts (McVay 2006; Barua et al. 2010; Fan et al. 2010; Athanasakou et al. 2011; Cain et al. 2019).[7]

Income classification shifting literature emphasizes the advantages of classification shifting as an earnings management tool over accrual-based and real earnings management (McVay 2006; Fan et al. 2010; Barua et al. 2010). First, classification shifting does not affect GAAP net income. Therefore, it may be less likely to draw attention from auditors and regulators. Second, classification shifting does not affect real business activities, which might reduce future earnings. As McVay (2006) states, "Classification shifting bears a relatively low cost: there is no accrual that later reverses, nor are there lost revenues from forgone opportunities." (p. 505) Consistent with this view, Abernathy et al. (2014) document that managers use classification shifting as a substitute for both accrual-based and real earnings management. Little, however, has been discussed on the potential cost of income classification shifting and its implication on firms' income classification shifting decisions.

One potential cost of income classification shifting is the higher likelihood of missing expectations in subsequent periods. By classifying current quarter core operating expenses as non-core special items, managers attempt to increase core earnings used by investors and analysts to value a firm and to forecast future earnings. However, if the firm is successful at influencing investors and analysts, then investors' valuation and analysts' forecasts for upcoming periods will likely be higher. Haw et al. (2011), using a sample from East Asian countries, show that investors react positively to abnormally high core earnings surrounding the earnings announcement but

[7] Fan et al. (2010) also find that classification shifting is used to meet zero earnings and one-year ago same quarter earnings.

negatively to them during the following year. Their findings indicate that investors are fooled by overstated core earnings due to classification shifting around the earnings announcement but later adjust as they recognize inflated core earnings. McVay (2006) and Alfonso et al. (2015), using U.S. samples, also document negative abnormal stock returns for classification shifters for the following year. Alfonso et al. (2015) find that the market's expectation of core earnings persistence is higher than the actual core earnings persistence for the following year for classification shifters, but not for non-shifters. Pan et al. (2019) document that shifted core earnings of the current period is likely to bias upward analysts' forecasts for the subsequent periods. Overall, most of the prior literature studying the effect of classification shifting on the stock market has suggested that the market and analysts perceive, at least initially, shifted core earnings as a base for firm valuation and analysts' forecasts of future earnings. Consequently, firms that successfully manage analysts' perceptions of current quarter core earnings to meet or beat their earnings estimates are likely to face higher market and earnings expectations in future periods. In addition, when the shifted core expenses in the current quarter recur in subsequent periods, firms face a double whammy - lower actual core earnings and higher earnings expectations in the future periods.

Indeed, influencing analysts' expectations has stock market implications. Prior studies document that analysts' expectations are considered the most important earnings targets for managers (Brown and Caylor 2005), and capital markets reward (penalize) firms when they meet or beat (miss) forecasts (Kasznik and McNichols 2002; Skinner and Sloan 2002; Rees and Sivaramakrishnan 2007).

Managers choose earnings management tools based on the costs and benefits of those tools (Zhang 2012; Abernathy et al. 2014). If managers expect that the cost of income classification shifting is higher than its benefits, they are unlikely to engage in income classification shifting. However, such potential cost of classification shifting can be reduced if firms can continue to shift their income in the subsequent periods. Since firms tend to shift core expenses to special items, the ability of firms to shift income in subsequent periods will likely depend significantly on whether they can report those special items in upcoming periods. Although special items are supposed to be infrequent or unusual, some special items may continue over multiple quarters while others are likely to occur for only one or two quarters. Therefore, whether firms can continue to shift their income in subsequent quarters depends on whether they report special items that allow them to shift income continuously in future periods. Consequently, if firms evaluate the costs and benefits of income classification shifting before they engage in it, they are more likely to undertake income classification shifting when they can continue to report special items in the subsequent periods. Figure 1 illustrates the potential costs of income classification shifting and how continuous special items can reduce such costs.

3. HYPOTHESES DEVELOPMENT

The evidence that income classification shifting can be used to meet analysts' expectations suggests that analysts cannot or will not correctly identify all shifted core expenses in their forecasts (McVay 2006; Fan et al. 2010; Athanasakou et al. 2011; Pan et al. 2019). Consequently, their earnings forecasts for an income classification shifter may be based on its inflated core earnings for the current period. At the same time, when core expenses recur in the next quarter, a

shifter's core earnings tend to be lower if the shifter cannot continue its shifting activity, everything else equal.

Interestingly, research has shown that analysts expect management to use discretion to bring the earnings numbers up to expectations. Thus, failure to meet the target sends an unfavorable signal about a firm's prospects (Jong et al. 2014). As a result, firms face repercussions when they miss analysts' earnings benchmarks (Kasznik and McNichols 2002; Skinner and Sloan 2002; Rees and Sivaramakrishnan 2007). This can be a cost from income classification shifting in current quarter q because classification shifting can increase analysts' earnings expectations in quarter q+1. However, such a potential cost of classification shifting can be reduced if a firm can continue to shift its income in quarter q+1.

Although special items are transitory to some degree, the various special items are not the same in terms of continuity. Some special items are likely to continue over a number of quarters while others are likely to be reported in only one quarter. For instance, it may take several quarters for a firm to complete a restructuring of its business or to phase out a business segment. On the other hand, firms are less likely to report gains and losses on the sales of operating assets over multiple quarters. If firms have special items that continue over multiple quarters, their managers are less likely to be concerned about the potential costs of income classification shifting from missing market expectations in quarter q+1 since they can shift their income consecutively in subsequent quarters . Thus, our first hypothesis is as follows.

H1: Firms that report special items that are likely to continue over multiple quarters (continuous special items) are more likely to engage in income classification shifting than firms that report special items that are not likely to continue over multiple quarters (non-continuous special items).

We classify special items into continuous and non-continuous categories to investigate whether managers are more likely to engage in income classification shifting given the potential cost of classification shifting. However, the differential likelihood of income classification shifting with continuous and non-continuous special items could be due to other characteristics of those special items. Although special items have some common characteristics such as being less persistent and less related to core operating activities, they are not all equal. Such differential characteristics among special items affect how firms report special items and use them to manage earnings. For example, Givoly and Hayn (1996) classify special items by the degree of discretion that managers can exert in terms of timing and magnitude and find that discretionary and semi-discretionary special items are used to manage earnings.[8] Kinney and Trezevant (1997) employ the classification scheme developed by Givoly and Hayn (1996) and find similar results. McVay (2006) classifies special items into shiftable and non-shiftable special items and finds that firms are more likely to engage in income classification shifting when they report shiftable special items.[9] Thus, the higher likelihood of classification shifting with continuous special items may be explained by continuous special items being more discretionary or more shiftable.

To address this alternative explanation of the results of the hypothesis 1 test, we perform an additional test. We examine continuous and non-continuous special items by their reporting timing in a series of the same type of special item (e.g., restructuring charge, discontinued

[8] They classify special items into three groups based on the degree of managerial discretion in timing and magnitude. Examples of non-discretionary special items are litigation settlements and foreign currency translation gains and losses while gains and losses on the sale of operating assets and investments, and inventory liquidation gains/losses are examples of semi-discretionary special items. Examples of discretionary special items are restructuring charges and asset write-offs.

[9] McVay (2006) argues that certain special items are more susceptible to classification shifting than others. Specifically, she classifies restructuring charges and merger-related costs as shiftable special items and all other special items as non-shiftable special items. While whether special items are shiftable affects the feasibility to shift income, it does not affect the cost of classification shifting. Our finding that the continuity of special items affects the likelihood of income classification shifting provides evidence of management's concern for classification shifting's potential costs.

operations) across time and examine the likelihood of income classification shifting. If the likelihood of classification shifting is simply because continuous special items share some characteristics of discretionary and/or shiftable special items, the likelihood of income classification shifting will not differ based on the timing in a series of the special item (e.g., whether it appears during the first period or last period in the series). However, if managers do consider the potential costs of classification shifting and want to reduce such costs by shifting continuous special items, the likelihood of income classification shifting can differ by the reporting timing in a series of a continuous or a non-continuous special item. Thus, we state hypothesis 2 as follows.

H2-a: Firms are more likely to engage in income classification shifting in a quarter when a continuous special item is reported first in a series of the special item than when a non-continuous special item is reported first in a series of the special item.

H2-b: Firms are not more likely to engage in income classification shifting in a quarter when the a continuous special item is reported last in a series of the special item than when a non-continuous special item is reported last in a series of the special item.

4. RESEARCH DESIGN

4.1 Proxy for Income Classification Shifting

We first estimate a firm's expected quarterly core earnings using the Fan et al. (2010) model as follows (for brevity, we exclude the firm subscript i):

$$CE_q = \beta_0 + \beta_1 CE_{q-1} + \beta_2 CE_{q-4} + \beta_3 ATO_q + \beta_4 ACCR_{q-1} + \beta_5 ACCR_{q-4} + \beta_6 \Delta SALES_q + \beta_7 NEG\_\Delta SALES_q + \beta_8 RET_q + \beta_9 RET_{q-1} + \varepsilon_q. \quad (1).$$

In equation (1), CE_q is core earnings, where q represents quarter q. Core earnings are sales minus both cost of goods sold and selling, general and administrative expenses, scaled by sales. ATO_q is the asset turnover ratio and $ACCR_{q-1}$ and $ACCR_{q-4}$ are lagged operating accruals. $\Delta Sales_q$ is percentage change in sales from quarter q-4 to quarter q whereas $NEG\_\Delta SALES_q$ is the percentage change in sales if $\Delta Sales_q$ is negative, and 0 otherwise. RET_q and RET_{q-1} are CRSP three-month value-weighted market-adjusted returns corresponding to the current and prior fiscal quarter, respectively. Table 1 gives detailed definitions of the variables used in this paper.[10]

We estimate equation (1) for each industry[11]-quarter excluding firm i over the fiscal years 1997 to 2016.[12] We then compute firm i's unexpected core earnings ($UE\_CE_{i,q}$) as the difference between the firm-quarter actual core earnings ($CE_{i,q}$) and the predicted industry-quarter core earnings from the model (1). We classify a firm quarter as classification shifting ($SHIFT_q = 1$) if it has positive unexpected core earnings in quarter q ($UE\_CE_{i,q}$) and its quarter q IBES earnings per share is greater than GAAP basic earnings per share (Athanasakou et al. 2011; Abernathy et al. 2014). Firms shift core expenses to non-core items to boost core earnings. I/B/E/S reports earnings that often exclude non-core items. Shifters' I/B/E/S earnings are expected to be higher than their GAAP earnings because shifters non-core earnings would tend to be biased downward. Indeed, Bradshaw and Sloan (2002) show that beginning around 1990, I/B/E/S earnings tend to exceed GAAP earnings for firms in general, which implies that the (mostly non-core) items excluded from I/B/E/S earnings are on average income decreasing.

[10] All variables used in our regressions, except for indicator variables, are winsorized at the 1st and 99th percentiles to control for outliers.
[11] We use the Fama-French (1997) 48 industry classifications for our analyses.
[12] We need to go back to 1996 to retrieve variables for quarters q-1 and q-4.

4.2 Continuous and Non-Continuous Special Items

We classify special items into continuous special items and non-continuous special items. Specifically, we consider special items and discontinued operations reported in *Compustat*. *Compustat* offers detailed descriptions of the components of special items and discontinued operations. We classify discontinued operations (DOQ), acquisition/merger-related costs (AQP), and restructuring costs (RCP) as continuous special items and the nine remaining special items as non-continuous special items. The three continuous special items, DOQ, AQP, and RCP, are related to organizational changes that take time to execute and implement. Thus, these special items are likely to occur consecutively over multiple quarters. Accounting treatments for these items reflect such characteristics of these activities. For example, the FASB provides a specific accounting treatment when a firm cannot complete discontinued operations within an accounting period, indicating that discontinued operations take time to complete and occur over multiple quarters (SFAS No. 144 (now ASC 205-20)).

To check the validity of our classification of continuous and non-continuous special items, we examine the continuity of special items using the universe of the *Compustat* Industrial Quarterly file from 1997-2016. Appendix 2 reports the count and percentage of firm-quarters with a new special item in the current quarter that continue to have the same type of special item in the following quarter(s), as well as the average number of quarters that the special item lasts. A firm quarter is considered to have a new special item if that special item is not reported in the previous quarter. We report this result for firm-quarters with special items (SPIQ), firm-quarters with discontinued operations (DOQ), and firm-quarters with one of the specific types of *Compustat* special items. In terms of the reoccurrence in consecutive quarters, discontinued operations (DOQ) ranks first at 70% and lasts an average of 5.91 quarters. Acquisitions and

mergers (AQPQ) comes next at 50% and lasts an average of 3.17 quarters. Restructuring costs (RCPQ) is third at 47% and lasts an average of 3.47 quarters. In contrast, the other special items last less than two quarters, with the highest percentage of re-occurrence being 28%. Hence, the three special items that we classify as continuous are indeed more likely to occur consecutively than other special items.

4.3 The Likelihood of Income Classification Shifting With/Without Continuous Special Items

Once we classify special items into continuous (DOQ, AQP, and RCP) and non-continuous special items, we create two dummy variables. The variable for continuous special items (Con_Special) is set to 1 if a firm quarter has one or more of the three continuous special items (DOQ, AQP, and RCP), and zero otherwise. The dummy variable for non-continuous special items (NCon_Special) equals 1 if a firm quarter has one or more of the nine non-continuous special items. We adapt the logit model by Abernathy et al. (2014) to estimate a firm's probability to shift after including the constraints and timing of real earnings management (REM), accrual earnings management (AEM), as well as other variables, as follows:

$$\begin{aligned}\text{Prob (Shift=1)} = {} & \alpha_0 + \alpha_1 \text{Con\_Special}_q + \alpha_2 \text{NCon\_Special}_q + \alpha_3 \text{Mean\_Con\_Special}_q + \\ & \alpha_4 \text{Mean\_NCon\_Special}_q + \alpha_5 \text{TaxRate}_{q-1} + \alpha_6 \text{Zscore}_{q-1} + \alpha_7 \text{InstHoldings}_{q-1} + \alpha_8 \text{MktShare}_{q-1} + \\ & \alpha_9 \text{BigN}_q + \alpha_{10} \text{LongTenure}_q + \alpha_{11} \text{SOX}_q + \alpha_{12} \text{HighNOA}_{q-1} + \alpha_{13} \text{OpCycle}_{q-1} + \alpha_{14} \text{CFF}_q + \\ & \alpha_{15} \text{LogAssets}_{q-1} + \alpha_{16} \text{ROA}_{q-1} + \alpha_{17} \text{MtB}_q + \alpha_{18} \text{PreREM}_q + \alpha_{19} \text{PreAEM}_q + \alpha_{20} \text{UnREM}_q + \\ & \alpha_{21} \text{UnAEM}_q + \text{Year Indicator} + \text{Industry Indicator} + \varepsilon_q. \end{aligned} \quad (2)$$

We control for the dollar magnitude of a firm's special items (Mean_Con_Special and Mean_NCon_Special) as the larger the values of special item(s), the more likely a firm can hide core expenses in special items to boost core earnings. Specifically, Mean_Con_Special and

Mean_NCon_Special is the mean of the firm quarter's three continuous special items and nine non-continuous special items, respectively. We control for factors that are considered constraints to real earnings management (Zang, 2012; Abernathy et al., 2014). TaxRate, or a firm's effective tax rate, is total taxes paid divided by pre-tax income. Zscore is Altman's Z-Score, used to proxy a firm's financial health. InstHoldings, which represents institutional ownership, is the number of institutional shares divided by total shares outstanding. MktShare, or a firm's percentage of industry sales, is the lagged total firm sales deflated by lagged industry (three-digit SIC code) total sales.

We also control for factors that are deemed constraints to accrual earnings management (Zang, 2012; Abernathy et al., 2014). BigN is equal to one if a firm is audited by one of the Big N firms, and zero otherwise. LongTenure equals one if a firm has been audited by the same auditor for longer than the sample median of 8 years, and zero otherwise. SOX (Sarbanes Oxley Act) equals one if the fiscal year is after 2003, and zero otherwise. HighNOA equals one if the net operating assets at the beginning of the year divided by lagged sales is greater than the median of the corresponding industry-year, and zero otherwise. OpCycle, or the length of operating cycle, is the sum of the days receivable and days in inventory at the beginning of the year. CFF, cash flow forecast, equals one if a firm has an analyst's cash flow forecast in IBES for that quarter, and zero otherwise.

In addition, we control for firm characteristics that might affect the likelihood of classification shifting. LogAssets, the log value of lagged total assets, controls firm size. ROA, net income divided by total assets, controls firm performance. MtB, market-to-book ratio, is the log of the market value of equity divided by book value of equity. It is included to control for firm growth.

Finally, we include controls for the extent of income-increasing earnings management, which consists of both predicted and unexpected real earnings management (PredREM and UnREM, respectively) and predicted and unexpected accruals earnings management (PredAEM and UnREM, respectively). We estimate real earnings management (REM) by adapting the Roychowdhury (2006) regressions for discretionary expenses and production costs with quarterly data. Specifically, we estimate abnormal discretionary expenses as the residual from the following equation:

$$DISEXP_q/A_{q-1} = \beta_0 + \beta_1(1/A_{q-1}) + \beta_2(SALES_{q-1}/A_{q-1}) + \varepsilon_q, \quad (3)$$

where $DISEXP_q$ are quarter q discretionary expenditures, defined as the sum of advertising expenses, R&D expenses and SG&A expenses.[13]

We estimate abnormal production costs as the residual from the following equation:

$$PROD_q/A_{q-1} = \beta_0 + \beta_1(1/A_{q-1}) + \beta_2(\Delta SALES_q/A_{q-1}) + \beta_3(\Delta SALES_{q-1}/A_{q-1}) + \varepsilon_q, \quad (4)$$

where $PROD_q$ is quarter q production cost, defined as the sum of costs of goods sold and change in inventory during the year.

We measure real earnings management (REM) by adding abnormal discretionary expenses multiplied by negative one to abnormal production costs. Following Abernathy et al. (2014), we compute predicted REM (PredREM) and unexpected REM (UnREM) as the predicted value and residual, respectively, from the following equation:

$$REM_q = \beta_0 + \beta_1 TaxRate_{q-1} + \beta_2 Zscore_{q-1} + \beta_3 InstHoldings_{q-1} + \beta_4 MktShare_{q-1} + \beta_5 BigN_q + \beta_6 LongTenure_q + \beta_7 HighNOA_q + \beta_8 OpCycle_{q-1} + \beta_9 LogAssets_{q-1} + \beta_{10} ROA_{q-1} + \beta_{11} MtB_q + \beta_{12} CFF_q + \beta_{13} Earn_q + \beta_{14} Inverse\_Mills_q + \varepsilon_q. \quad (5)$$

[13] We set advertising and R&D expenses to zero if they are missing, as long as SG&A expenses is available (Roychowdhury 2006).

where Earn is the earnings management goal control variable, which is quarter q earnings before extraordinary items minus discretionary accruals and production costs, plus discretionary expenditures, and Inverse_Mills is the inverse Mills ratio, which controls for potential sample selection bias.[14]

To calculate the proxy for accruals management (AEM), we adopt the cross-sectional modified Jones model (Dechow, Sloan, & Sweeney, 1995) adapted for quarterly data as in Matsumoto (2002) as follows:

$$TA_q/A_{q-1} = \beta_0(1/A_{q-1}) + \beta_1(\Delta SALES_q/A_{q-1}) + \beta_2(PPE_q/A_{q-1}) + \beta_3 QTR4_q + \varepsilon_q, \quad (6)$$

where TA_q is total accruals, defined as quarter q Δcurrent assets - Δcurrent liabilities – Δcash + Δshort-term debt – depreciation, A_{q-1} is total assets in quarter q-1, $\Delta SALES_q$ is the change in sales in quarter q, PPE_q is gross property, plant, and equipment in quarter q, and $QTR4_q$ is a dummy variable equal to 1 if quarter q is the fourth fiscal quarter, 0 otherwise. We estimate equation (6) for each firm-year using all firm-quarters in that year from the same two-digit SIC code.[15] The difference between actual total accruals and the estimated total accruals from the model is our measure for the discretionary accruals (AEM). Consistent with Abernathy et al. (2014), we compute predicted AEM (PredAEM) and unexpected AEM (UnAEM) as the predicted value and residual, respectively, from the following equation:

$$\begin{aligned} AEM_q = {} & \beta_0 + \beta_1 TaxRate_{q-1} + \beta_2 Zscore_{q-1} + \beta_3 InstHoldings_{q-1} + \beta_4 MktShare_{q-1} + \beta_5 BigN_q + \\ & \beta_6 LongTenure_q + \beta_7 HighNOA_q + \beta_8 OpCycle_{q-1} + \beta_9 LogAssets_{q-1} + \beta_{10} ROA_{q-1} + \beta_{11} MtB_q + \\ & \beta_{12} CFF_q + \beta_{13} PreREM_q + \beta_{14} UnREM_q + \beta_{15} Inverse\_Mills_q + \varepsilon_q. \end{aligned} \quad (7)$$

[14] For brevity, we do not elaborate on the selection model for the Inverse Mills ratio. Please see Table 1 for the details.

[15] To be included in the sample, we require at least fifteen observations per industry-quarter.

In our main model, equation (2), we include both industry and year fixed effects and cluster the standard errors by time and firm to correct for cross-sectional and serial-correlation (Peterson 2009). Consistent with our first hypothesis, in equation (2) we expect $\alpha_1 > \alpha_2$.

4.4 The Likelihood of Income Classification Shifting and the Continuity of Special Items

We hypothesize that firms with continuous special items are more likely to shift because the ability to shift consecutively would make it easier for them to maintain their boosted core earnings. To provide further evidence that it is the continuity of the special items, not merely the characteristics of continuous special items, that affects a firm's shifting behavior (Givoly and Hayn 1996; McVay 2006), we create an indicator variable (FIRST). This variable equals one for special items that are the first in a consecutive series of the same type of special item, and zero otherwise.[16] We also create an indicator variable (LAST) that equals one for special items that are the last in a consecutive series, and zero otherwise. We then expand our main model by interacting FIRST and LAST with Con_Special and NCon_Special. Specifically, we estimate the following logit model:

$$\begin{aligned}\text{Prob(Shift=1)} = {} & \alpha_0 + \alpha_1 \text{Con\_Special}_q + \alpha_2 \text{NCon\_Special}_q + \alpha_3 \text{Con\_Special}_q \times \text{FIRST} + \\ & \alpha_4 \text{NCon\_Special}_q \times \text{FIRST} + \alpha_5 \text{Con\_Special}_q \times \text{LAST} + \alpha_6 \text{NCon\_Special}_q \times \text{LAST} \\ & \alpha_7 \text{Mean\_Con\_Special}_q + \alpha_8 \text{Mean\_NCon\_Special}_q + \alpha_9 \text{TaxRate}_{q-1} + \alpha_{10} \text{Zscore}_{q-1} + \\ & \alpha_{11} \text{InstHoldings}_{q-1} + \alpha_{12} \text{MktShare}_{q-1} + \alpha_{13} \text{BigN}_q + \alpha_{14} \text{LongTenure}_q + \alpha_{15} \text{SOX}_q + \alpha_{16} \text{HighNOA}_{q-1} \\ & + \alpha_{17} \text{OpCycle}_{q-1} + \alpha_{18} \text{CFF}_q + \alpha_{19} \text{LogAssets}_{q-1} + \alpha_{20} \text{ROA}_{q-1} + \alpha_{21} \text{MtB}_q + \alpha_{22} \text{PreREM}_q + \\ & \alpha_{23} \text{PreAEM}_q + \alpha_{24} \text{UnREM}_q + \alpha_{25} \text{UnAEM}_q + \text{Year Indicator} + \text{Industry Indicator} + \varepsilon_q. \end{aligned} \quad (8)$$

If the continuity of special items is an important factor in a firm's decision to shift, we expect that the first continuous special item is more positively correlated with shifting than the first non-continuous special item. In other words, in accordance with H2-a, we expect $\alpha_1 + \alpha_3 > \alpha_2$

[16] A series can be for one or more periods. Therefore, some sample observations are classified as both the first and the last in a series.

+ α_4. Also, we expect no significant difference in their correlations with shifting if the special items occur last. In other words, when special items discontinue in the next quarter(s), then whether the special item is a continuous or non-continuous type of special item does not make a difference in a firm's decision to shift. Hence, we expect $\alpha_1 + \alpha_5 = \alpha_2 + \alpha_6$.

5. SAMPLE SELECTION AND DESCRIPTIVE STATISTICS

5.1 Sample Selection

We collect data for the fiscal years 1997 to 2016 from the Compustat Industrial Quarterly file, the I/B/E/S Split-Unadjusted file, the CRSP Monthly Return file, and the Thomas Reuters file.[17] Consistent with prior research, we exclude firms in financial services (SIC 6000-6999) and utilities (SIC 4900-4999). We remove firm-quarter observations with annual sales of less than $1 million to avoid creating outliers as a result of scaling variables by sales (McVay 2006; Fan et al. 2010). To ensure quarterly data are comparable across years, we eliminate firms that had a change in a fiscal year. We require at least 15 observations per industry-quarter to estimate expected core earnings. Industries are classified based on Fama and French (1997). We delete firm-quarters with continuous and non-continuous special items in the same quarter. Finally, an observation must have non-missing information to measure the variables used in the applicable regression equation.[18] The final sample consists of 27,465 firm-quarters (2,610 distinct firms), out of which 4,080 firms-quarters (369 distinct firms) are classified as engaged in income classification shifting. Appendix 1 details our sample selection procedure.

[17] We begin with 1997 because there were few observations for common shares issued for quarters (cshiq) in Compustat before 1997. This variable is used to generate the Inverse Mills ratio (Zang 2012; Abernathy et al., 2014).

[18] For all special item related variables, we set any missing observation to zero.

5.2 Descriptive Statistics

Panel A of Table 2 reports the selected descriptive statistics of the variables used in the main regression and Panel B of Table 2 provides selected descriptive statistics comparing firm-quarter observations for shifters and non-shifters. Panel B shows that 4,080 firm quarters are classified as shifters whereas 23,385 are categorized as non-shifters. Shifters are significantly larger than non-shifters (mean of 6,021.94 million vs. mean of 4,035.07 million), consistent with McVay (2006). Shifters also generate significantly higher sales than non-shifters (mean of 1,148.62 million vs. mean of 911.43 million), even though they are less profitable than nonshifters in terms of ROA (mean of 0.07% vs. mean of 0.88%). As expected, shifters are more likely to have both continuous special items and non-continuous special items than nonshifters. On average, 45.8% of shifters vs. 23.0% of nonshifters have continuous special items; and 21.2% of shifters vs. 13.2% of nonshifters have non-continuous special items. Shifters also tend to have lower Altman's Zscores (mean of 2.023 vs. mean of 2.640), higher institutional holdings (mean of 67.9% vs. 60.5%), larger market share (mean of 0.090 vs. 0.088), and longer operating cycles (mean of 166.181 vs. 159.226). The percentage of shifters audited by BigN auditors is 90.4% vs. 86.3% for nonshifters. On average, the audit tenure is 11.909 years for shifters and 10.413 years for nonshifters. While 60% of the firm-quarters in the full sample come from the post SOX years, 69.5% of the shifting quarters occur after SOX. This is consistent with the observation that the greater scrutiny on financial reporting after SOX led firms to replace accruals management with other earnings management techniques, including income classification shifting (Kolev et al. 2008). Finally, the mean core earnings of shifters is significantly higher than that of non-shifters (mean of 0.153 vs. mean of 0.113).

Panel C of Table 2 reports the number and proportion of firm-quarters that are classified as shifters by year over the period that we analyze. The results indicate that the percentage of shifters hovered around 12% from 1997 to 2007 and increased steadily to 15% in 2008 and then to 25% in 2016. This pattern is consistent with the previous finding that accrual management activities declined in the post-SOX period whereas other earnings management activities, including classification shifting and real earnings management, went up (Cohen et al. 2008; Kolev et al. 2008).

Table 3 presents the Pearson/Spearman correlations for the variables used in the main test. Pearson correlations are above the diagonals and Spearman correlations are below the diagonals. Numbers in bold, bold italics and italics are significant at the 0.01, 0.05, and 0.10 level (two-tailed), respectively. The results indicate that while both continuous special items and non-continuous special items are positively related to income classification shifting, the Pearson and Spearman correlation coefficients are larger between continuous special items and shifting than between non-continuous special items and shifting (0.184 vs. 0.081). Interestingly, income classification shifting is also positively correlated with institutional holdings, BigN auditors, post-SOX period, and the issuance of cash flow forecasts. This is consistent with prior findings that firms are more likely to use income classification under the heightened scrutiny of auditors and other market participants (Chung et al. 2002; Cohen et al. 2008; Roychowdhury 2006; Kolev et al. 2008; McInnis and Collins 2011). In addition, income classification shifting is positively associated with predicted REM and predicted AEM, suggesting that classification shifting and these two forms of earnings management are used jointly to manage earnings. At the same time, income classification shifting is negatively related with unpredicted REM and unpredicted AEM, implying that

classification shifting is less likely to be used when REM and AEM are unexpectedly high (Abernathy et al. 2014).

6. MAIN RESULTS

Table 4 reports the results from the logistic regression of SHIFT on indicators of continuous and non-continuous special items (Con_Special and NCon_Special, respectively). We report z-statistics based on robust standard errors clustered by firm and quarter. The coefficient on Con_Special is positive and significant (coefficient=1.136, z=14.95), suggesting that firms with continuous special items are more likely to shift than firms without continuous special items. Specifically, the odds ratio is 3.144, meaning that holding all other variables constant, the odds to shift is 214.4% higher for firm-quarters with continuous special than for those with no continuous special items. The coefficient on NCon_Special is also positive and significant (coefficient=0.906, z=11.090), indicating that firms with non-continuous special items are more likely to shift than firms without special items. Furthermore, the odds ratio is 2.474, meaning that holding all other variables constant, the odds to shift is 147.4% higher for firm-quarters with non-continuous special than for those with no special items. The results are consistent with McVay's (2006)' finding that firms with special items are more likely to shift. Perhaps more importantly, the Wald-test shows that the coefficient for continuous special items α_1 is significantly larger than the coefficient for non-continuous items α_2 ($\chi 2$ (1) =10.70, p=0.001). This result supports Hypothesis H1 that firms are more likely to engage in income classification shifting when they have continuous special items than when they have non-continuous special items. The continuous special items may allow firms to reduce the potential cost of income classification shifting.

The coefficients on the real earnings management constraints are generally consistent with expectations and prior studies. The positive and significant coefficients on the levels of both the continuous special items and non-continuous special items (coefficient=0.008, z=3.48, and coefficient=0.013, z=5.14, respectively) suggests that firms are more likely to classification shift when the magnitude of the special items is large. The coefficient of -0.025 on the Zscore is negative and significant (z=-1.79), which conveys that firms in poor financial condition are less likely to shift. Survey evidence in Graham et al. (2005) documents that when a firm is in bad financial shape, CFOs consider survival more important than reporting concerns. The positive and significant coefficient of 0.412 on InstHoldings (z=3.56) implies that firms with greater institutional investor monitoring are more likely to resort to classification shifting. Institutional owners are more likely to monitor firms' real earnings manipulation (Bushee, 1998 and Roychowdhury 2006) due to long-term economic consequences. Thus, firms with more institutional ownership may be more likely to substitute real earnings management with classification shifting. Finally, the coefficient on MktShare is negative and significant (coefficient=-0.436, z=-2.15). Market leaders may see real earnings management as less costly because the reduction in their competitive advantage from deviating from optimal business strategies is relatively lower (Zang, 2012). Hence, firms with higher market share may be less apt to engage in classification shifting versus real earnings management.

Turning to our results on accrual management constraints, we find the coefficient on SOX is positive (0.555) and significant (z=4.73), indicating that income classification shifting increases in the post SOX years, which witnessed a decline in accruals management (Cohen et al., 2008). The positive and significant coefficient of 0.132 on CFF (z=2.02) is consistent with the finding that firms reduce accruals manipulation in response to analysts' provision of cash flow forecasts

and instead turn to other earnings management techniques including classification shifting (McInnis and Collins, 2011). Overall, the results suggest tightened regulation on financial reporting after SOX and greater transparency on accruals in the presence of analysts' cash flow forecasts limited firms' capacity to manipulate accruals and increased their propensity to classification shift.

Table 5 presents the results of the logistic regression in which we interact continuous and non-continuous special items with a dummy variable that indicates whether it is the first (last) special item in a series of special items. We find that the coefficients on Con_Special and NCon_Special remain positive and significant (coefficient=1.114, z=14.47; and coefficient=0.916, z=7.72 respectively) and that the coefficient on Con_Special α_1 is larger but now marginally more significant than the coefficient on NCon_Special α_2 ($\chi 2$ (1) =3.27, p=0.070). These results indicate that the difference in propensity to classification shift between continuous and non-continuous special items is moderate when they both occur in the middle of a series of consecutive special items. The coefficient on Con_Special × First α_3 is significantly positive (coefficient=0.245, z=3.56), whereas the coefficient on NCon_Special × First α_4 is significantly negative (coefficient=-0.150, z=-1.93). The sum of the coefficients Con_Special + Con_Special × First ($\alpha_1 + \alpha_3$) is 1.359, which is significantly higher than the sum of the coefficients NCon_Special + NCon_Special × First ($\alpha_2 + \alpha_4$) of 0.766 ($\chi 2$ (1) =17.04, p=0.000). These results suggest that firms are more likely to shift if a new special item is continuous. On the other hand, if the new special item is non-continuous, firms are not as likely to shift. Perhaps more telling is the interaction of continuous and non-continuous special items with the dummy variable LAST. The coefficient on Con_Special × Last α_5 is -0.020 and the coefficient on NCon_Special × Last α_6 is 0.006. Neither is statistically significant (z=-0.23 and z=0.07, respectively). The sum of the

coefficients Con_Special + Con_Special × Last ($\alpha_1 + \alpha_5$) is 1.094, which is not significantly different from the sum of the coefficients NCon_Special + NCon_Special × Last ($\alpha_2 + \alpha_6$) of 0.922 ($\chi 2$ (1) =0.11, p=0.739). In other words, there is little difference in the likelihood to shift when neither type of special item will reoccur in the next quarter. These results provide evidence in support of our conjecture that the continuity of special items plays a significant role in firms' decision to shift income.

7. ADDITIONAL TEST – ALTERNATIVE CONTROLS FOR REM AND AEM

In our main analysis, we follow Abernathy et al. (2014) and control real earnings management and accruals management using their predicted and unpredicted values. In a robustness test, we replace these values with the raw values of REM and AEM. Specifically, POS_REM is income increasing real earnings management in quarter q, calculated as the sum of abnormal discretionary expenses multiplied by negative one and abnormal production costs (Cohen and Zarowin, 2010). POS_AEM is income increasing discretionary accruals in quarter q, measured using the cross-sectional modified Jones model (Dechow, et al. 1995) adapted for quarterly data as in Matsumoto (2002). We run the tests with both the main logistic regression model and the regression model with interactions. The untabulated results are qualitatively similar and the conclusions are unaltered.

8. CONCLUSIONS

Prior literature has documented large sample evidence of income classification shifting. However, there is little discussion on the potential costs of classification shifting and its implications on firms' decisions to engage in classification shifting. As much as classification

shifting can assist in firms' meeting or beating analysts' benchmarks in the current quarter, there will be a greater chance to miss them in quarter q+1, which can be the potential cost of income classification shifting.

If managers weigh the costs and benefits of income classification shifting, they are more likely to engage in classification shifting when they have certain special items that can allow them to reduce the cost of classification shifting by shifting income across quarters. It is important to consider both potential costs and benefits of income classification shifting to understand firms' motivation to engage in classification shifting and to assess the likelihood of classification shifting. Nevertheless, there has been a lack of discussion on the potential costs of classification shifting and their implication in firms' decisions on income shifting. We fill this gap in our study.

We document that firms are likely to engage in income classification shifting when they can reduce the costs of classification shifting by shifting their income consecutively using continuous special items. Also, firms are more likely to shift their earnings when special items appear first in a series of continuous special items rather than first in a series of non-continuous special items. The results suggest that the potential costs of classification shifting affect firms' decisions on income classification shifting.

Given the significant increase in the reporting of special items over time (Elliott and Hanna 1996; Donelson et al. 2011; Cain et al. 2019), it is important for users of financial statements to understand the implications of special items and circumstances that affect the likelihood of income classification shifting. Our results convey that the continuity of special items plays a significant role in firms' decision to engage in income classification shifting, which can help users of financial statements evaluate the likelihood of classification shifting and the quality of earnings.

An issue worth mentioning is that whether a special item is consecutive or non-consecutive, it will eventually end. However, if a special item lasts for a few quarters, shifting earlier in the series would allow management to increase core earnings while buying some time. Management may expect its firm's future core earnings to improve or it may find other ways to increase core earnings in the future, such as shifting future special items.

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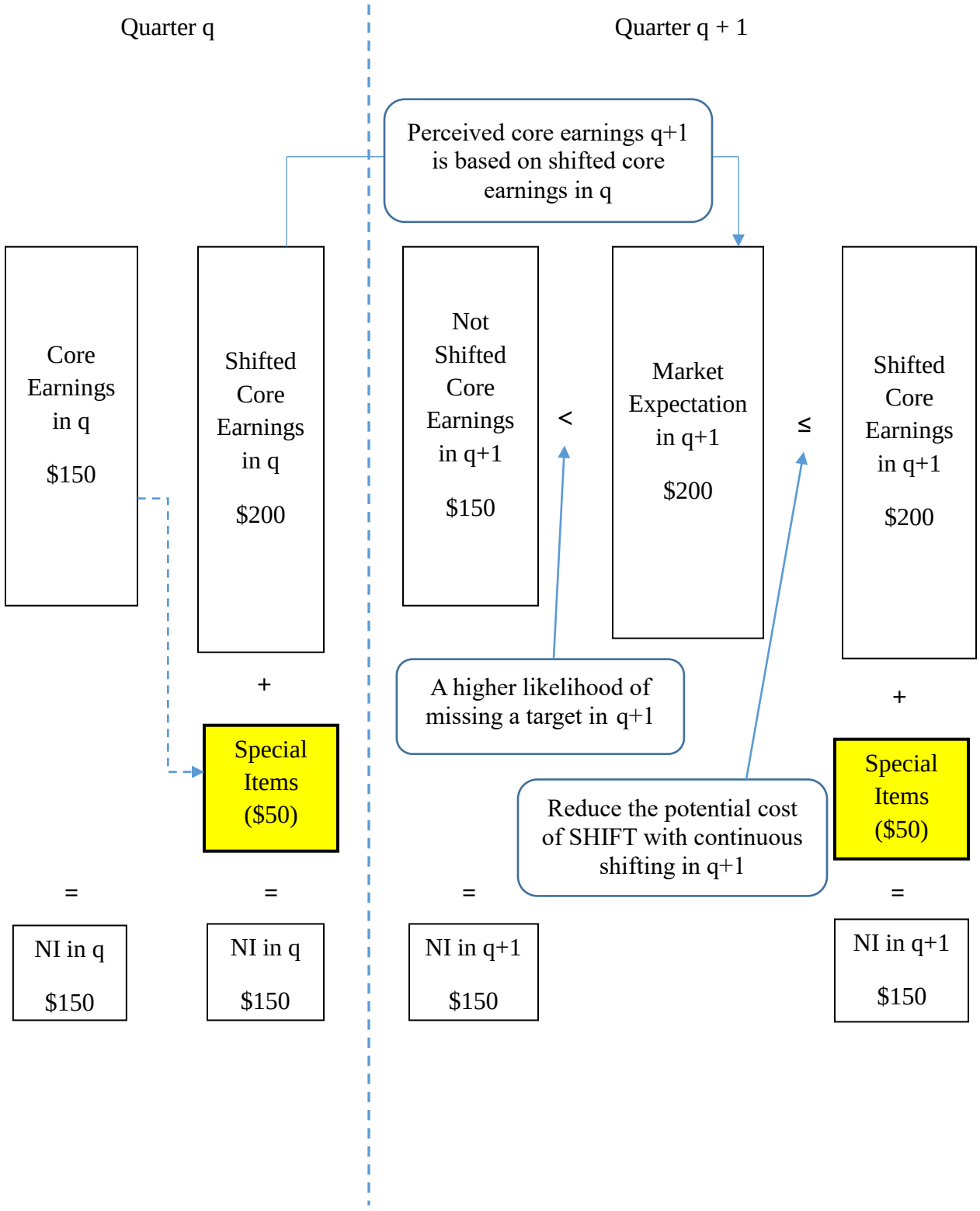
Figure 1. The cost and the implication of income classification shifting in quarters q and q+1



Appendix 1. Sample Selection Criteria and Procedures

Selection Criteria			Observations
Total number of US firm-quarters in *Compustat* from 1997 to 2016			922,164
Less:	number of firm-quarters in financial services and utilities	158,016	764,148
Less:	number of firm-quarters with annual sales of less than $1 million	212,752	551,396
Less:	number of firm-quarters that had a change in fiscal year end	1,929	549,467
Less:	number of firm-quarters with missing current quarter or lagged accounting variables for the core earnings regression	352,459	197,008
Less:	number of firm-quarters with missing return data on CRSP	74,401	122,607
Less:	number of firm-quarters in an industry with less than 15 observations	7,032	115,575
Less:	number of firms-quarters with missing I/B/E/S data	36,826	78,749
Less:	number of firm-quarters with missing institutional ownership data	8,576	70,173
Less:	number of firm-quarters with missing current quarter or lagged accounting variables for the logistic regression	36,162	34,011
Less:	number of firm-quarters with both continuous and non-continuous special items in the same quarter	6,546	
Final sample			27,465

Appendix 2. Continuity of Special Items

		Count of Firm-Quarters with New Special Items	Count of Firm-Quarters with New Special Items that Continue in the Following Quarter(s)	Percent of Firm-Quarters with New Special Items that Continue in the Following Quarter	Average Number of Quarters that New Special Items Last
(1)	SPIQ	88,802	34,048	38%	2.54
(2)	DOQ	15,127	10,630	70%	5.91
(3)	AQPQ	13,607	6,819	50%	3.17
(4)	RCPQ	20,932	9,918	47%	3.47
(5)	SPIOPQ	21,363	6,023	28%	1.70
(6)	DTEPQ	18,644	5,113	27%	1.58
(7)	RRPQ	5,742	1,470	26%	1.60
(8)	SETPQ	16,277	4,072	25%	1.61
(9)	GLPQ	19,035	4,384	23%	1.43
(10)	WDPQ	22,384	4,222	19%	1.33
(11)	RDIPQ	2,412	449	19%	1.30
(12)	XIQ	8,649	1,434	17%	1.31
(13)	GDWLIPQ	10,669	1,182	11%	1.16

Appendix 2 presents the count of firm-quarters with new special items, the count and percent of those firm-quarters that continue to have the same type of special item in the following quarter(s), and the average number of quarters that a new special item lasts. The sample period is 1997-2016. A firm quarter is deemed to have new special items if there are no special items in the previous quarter. SPIQ is unusual or nonrecurring items, including any item(s) from (3)-(13), DOQ is gain or loss from discontinued operations, AQPQ is acquisitions and mergers, RCPQ is restructuring costs, SPIOPQ is other special items, DTEPQ is extinguishment of debt, RRPQ is reversal of restructuring and acquisition costs, SETPQ is the sum of all settlement special items, GLPQ is gain or loss on sale of assets, WDPQ is asset write-downs, RDIPQ is in-process R&D expense, XIQ is extraordinary items, and GDWLIPQ is goodwill impairments.

Table 1
Variable Definitions

Variable		Definition (*Compustat* variables in parentheses)
CE_q	=	core earnings for quarter q, calculated as sales (saleq) - cost of goods sold (cogsq) - selling, general, and administrative expenses (xsgaq), scaled by sales (saleq).
UE_CE_q	=	unexpected core earnings for quarter q, calculated as the difference between reported core earnings and predicted core earnings (CE_q), estimated from the following model by industry-quarter, excluding firm i: $CE_q = \beta_0 + \beta_1 CE_{q-1} + \beta_2 CE_{q-4} + \beta_3 ATO_q + \beta_4 ACCR_{q-1} + \beta_5 ACCR_{q-4} + \beta_6 \Delta SALES_q + \beta_7 NEG\_\Delta SALES_q + \beta_8 RET_q + \beta_9 RET_{q-1} + \varepsilon_q$.
ATO_q	=	asset turnover ratio for quarter q, calculated as $Sales_q/((NOA_q+NOA_{q-1})/2)$, where $NOA_{q(q-1)}$, or net operating assets, is operating assets minus operating liabilities at the end of quarter q (q-1). Operating assets is calculated as total assets (atq) less cash and short-term investments (cheq). Operating liabilities is calculated as total assets (atq) less total debt (sum of dlcq and dlttq), less book value of common and preferred equity (sum of pstkq and cstkq), less minority interest (mibq). Average NOA, or $(NOA_q + NOA_{q-1})/2$, is required to be positive.
$ACCR_q$	=	operating accruals for quarter q, calculated as income before extraordinary items (ibq) minus cash from operations (oancfy), scaled by sales (salesq).
$\Delta SALES_q$	=	percentage change in sales for quarter q, calculated as $(sales_q - sales_{q-4})/sales_{q-4}$.
$NEG\_\Delta SALES_q$	=	$\Delta SALES_q$ if the quarter q change in sales is less than 0, and 0 otherwise.
RET_q	=	three-month CRSP value-weighted market-adjusted return exclusive of dividends, corresponding to the fiscal quarter.
$SHIFT_q$	=	1 if a firm has positive unexpected core earnings in quarter q (UE_CE_q) and its I/B/E/S earnings are greater than GAAP basic earnings in quarter q, 0 otherwise.
$Con\_Special_q$	=	1 if a firm quarter has at least one of the continuous special items DOQ, AQP, or RCP, and 0 otherwise.
$NCon\_Special_q$	=	1 if a firm quarter has one or more of the non-continuous special items SPIOPQ, DTEPQ, RRPQ, SETPQ, GLPQ, WDPQ, RDIPQ, XIQ, or GDWLIPQ, and 0 otherwise.
$Mean\_Con\_Speical_q$	=	the average value of firm's three continuous special items in quarter q.
$Mean\_NCon\_Speical_q$	=	the average value of firm's nine non-continuous special items in quarter q.
$TaxRate_q$	=	tax rate for quarter q, calculated as total taxes paid divided by pre-tax net income (txtq/piq) and constrained to be between 0 and 100 percent.
$Zscore_{q-1}$	=	Altman's Z-Score for quarter q, calculated as Zscore=3.3*(niq/atq)+1.0*(salq/atq)+1.4*(req/atq)+1.2*(wcapq/atq)+0.6*(cshoq*prccq/ltq)
$InstHoldings_q$	=	institutional ownership for quarter q, calculated as the number of common shares held by institutions divided by total common shares (cshoq) at the end of quarter q.
$MktShare_q$	=	market share in quarter q, calculated as a firm's total sales (saleq) divided by the industry (three-digit SIC code) total sales.
$BigN_q$	=	1 if a firm is audited by a Big N audit firm, and 0 otherwise.
$LongTenure_q$	=	1 if a firm's audit tenure is greater than 7 years (sample median for audit tenure), 0 otherwise.
SOX_q	=	1 for a fiscal year after 2003, and 0 otherwise.
$HighNOA_q$	=	1 if a firm's net operating assets (NOA) is greater than the industry median in quarter q, 0 otherwise. NOA_q = (seqq-cheq+dlttq+dlcq)/saleq.
$OpCycle_q$	=	operating cycle, calculated as the days receivable plus days in inventory for year t. Days receivable is $360/[sale_t/(rec_t+rec_{t-1})/2]$; days in inventory is $360/[cogs_t/(invt_t+invt_{t-1})/2]$.
CFF_q	=	1 if a firm has I/B/E/S analysts' cash flow forecasts for quarter q, and 0 otherwise.
$LogAssets_q$	=	log of assets for quarter q, calculated as log of total assets (atq).
ROA_q	=	return on assets for quarter q, calculated as net income (niq) divided by total assets (atq).
MtB_q	=	natural log of the market-to-book ratio, calculated as the log of the market value of equity (prccq*cshoq) divided by book value of equity (ceqq).

Table 1 (Continued)
Variable Definitions

Variable		Definition (*Compustat* variables in parentheses)
$Inverse\_Mills_q$	=	Inverse Mills ratio calculated as follows (Abernathy et al., 2014; Zang 2012): $JustBeat_q = \beta_0 + \beta_1 NumberBeat_q + \beta_2 Issue_{q+1} + \beta_3 MtB_{q-1} + \beta_4 Shares_q + \beta_5 LNanalys_q + \beta_6 ROA_{q-1} + Year + \varepsilon_q$, where JustBeat=1 if a firm's earnings before extraordinary items over lagged assets is between 0 and 0.005, or its change in basic EPS excluding extraordinary items from the same quarter of the prior year is between 0 and 2 cents, or actual EPS less the last analyst consensus forecast before the fiscal quarter end is between 0 and 1 cent, 0 otherwise; NumberBeat is number of times in the previous 4 quarters that firm JustBeat; Issue=1 if a firm issues equity in the next quarter, 0 otherwise; MtB is as defined in this table; shares is natural log of the number of shares outstanding(cshoq); LNanalys is the log of the number of analysts following the firm, and ROA is defined in this table.
$Earn_q$	=	earnings before extraordinary items minus discretionary accruals and production costs, plus discretionary expenditures, for quarter q.
REM_q	=	real earnings management in quarter q, calculated as the sum of abnormal discretionary expenses multiplied by negative one and abnormal production costs (Cohen and Zarowin, 2010).
$PredREM_q$	=	predicted real earnings management, calculated as follows: $REM_q = \beta_0 + \beta_1 TaxRate_{q-1} + \beta_2 Zscore_{q-1} + \beta_3 InstHoldings_{q-1} + \beta_4 MktShare_{q-1} + \beta_5 BigN_q + \beta_6 LongTenure_q + \beta_7 HighNOA_q + \beta_8 OpCycle_{q-1} + \beta_9 LogAssets_{q-1} + \beta_{10} ROA_{q-1} + \beta_{11} MtB_q + \beta_{12} CFF_q + \beta_{13} Earn_q + \beta_{14} Inverse\_Mills_q + \varepsilon_q$. The variables are defined in this table.
$UnREM_q$	=	unexpected real earnings management, which is the residual ε_q from the model that generates $PredREM_q$.
POS_REM_q	=	income increasing real earnings management in quarter q, calculated as the sum of abnormal discretionary expenses multiplied by negative one and abnormal production costs (Cohen and Zarowin, 2010).
AEM_q	=	discretionary accruals in quarter q, measured as the residuals from the cross-sectional modified Jones model (Dechow, et al. 1995) adapted for quarterly data as in Matsumoto (2002).
$PredAEM_q$	=	predicted discretionary accruals, calculated as follows: $AEM_q = \beta_0 + \beta_1 TaxRate_{q-1} + \beta_2 Zscore_{q-1} + \beta_3 InstHoldings_{q-1} + \beta_4 MktShare_{q-1} + \beta_5 BigN_q + \beta_6 LongTenure_q + \beta_7 HighNOA_q + \beta_8 OpCycle_{q-1} + \beta_9 LogAssets_{q-1} + \beta_{10} ROA_{q-1} + \beta_{11} MtB_q + \beta_{12} CFF_q + \beta_{13} PreREM_q + \beta_{14} UnREM_q + \beta_{15} Inverse\_Mills_q + \varepsilon_q$. The variables are defined in this table.
$UnAEM_q$	=	unexpected discretionary accruals, which is the residual ε_q from the model that generates $PredAEM_q$.
POS_AEM_q	=	income increasing discretionary accruals in quarter q, measured using the cross-sectional modified Jones model (Dechow, et al. 1995) adapted for quarterly data as in Matsumoto (2002).
FIRST	=	1 if the special item appears first in a string of consecutive special items of the same type and 0 otherwise.
LAST	=	1 if the special item appears last in a string of consecutive special items of the same type and 0 otherwise.

Table 2
Descriptive Information

Panel A: Descriptive Statistics

Variable	Mean	Median	Standard Deviation	25%	75%
$Shift_q$	0.149	0.000	0.356	0.000	0.000
$Con\_Special_q$	0.263	0.000	0.441	0.000	1.000
$Ncon\_Special_q$	0.144	0.000	0.351	0.000	0.000
$TaxRate_{q-1}$	0.307	0.348	0.170	0.250	0.385
$Zscore_{q-1}$	2.619	1.982	4.735	1.212	3.070
$InstHoldings_{q-1}$	0.612	0.670	0.289	0.396	0.839
$MktShare_{q-1}$	0.088	0.018	0.166	0.004	0.086
$BigN_q$	0.869	1.000	0.338	1.000	1.000
$LongTenure_q$	0.472	0.000	0.499	0.000	1.000
SOX_q	0.600	1.000	0.490	0.000	1.000
$HighNOA_{q-1}$	0.704	1.000	0.456	0.000	1.000
$OpCycle_{q-1}$	159.440	150.786	84.352	104.560	202.321
CFF_q	0.370	0.000	0.483	0.000	1.000
$LogAssets_{q-1}$	6.633	6.576	1.766	5.407	7.786
ROA_{q-1}	0.006	0.012	0.044	0.002	0.022
BtM_q	0.755	0.709	0.822	0.247	1.199
$PredREM_q$	0.022	0.013	0.145	-0.049	0.086
$PredAEM_q$	-0.018	-0.021	0.415	-0.150	0.118
$UnREM_q$	0.011	0.006	0.268	-0.092	0.103
$UnAEM_q$	0.030	0.033	0.439	-0.102	0.170
CE_q	0.119	0.122	0.213	0.064	0.189

Table 2 (Continued)

Panel B: Selected Descriptive Statistics for Shifters vs. Non-Shifters

	SHIFTERS (n=4,080)		NON-SHIFTERS (n=23,385)		p-value for statistical difference	
Variable	**Mean**	**Median**	**Mean**	**Median**	**t-Test (Two-Tailed)**	**Wilcoxon Rank Sum Test (Two-Tailed)**
$Size_q$(in millions)	6,021.94	1,135.48	4,035.07	573.99	<0.001	<0.001
$Sale_q$(in millions)	1,148.62	306.26	911.43	180.80	<0.001	<0.001
TA_q	5,271.62	1,427.65	3,244.36	659.67	<0.001	<0.001
ROA_q	0.07%	0.76%	0.88%	1.27%	<0.001	<0.001
$Con\_Special_q$	0.458	0.000	0.230	0.000	<0.001	<0.001
$Ncon\_Special_q$	0.212	0.000	0.132	0.000	<0.001	<0.001
$TaxRate_q$	0.301	0.330	0.306	0.347	0.162	<0.001
$Zscore_q$	2.023	1.664	2.640	2.017	<0.001	<0.001
$InstHoldings_q$	0.679	0.742	0.605	0.662	<0.001	<0.001
$MktShare_q$	0.090	0.022	0.088	0.017	0.472	<0.001
$BigN_q$	0.904	1.000	0.863	1.000	<0.001	<0.001
$Tenure_q$	11.909	9.000	10.413	8.000	<0.001	<0.001
SOX_q	0.695	1.000	0.583	1.000	<0.001	<0.001
$HighNOA_q$	0.784	1.000	0.686	1.000	<0.001	<0.001
$OpCycle_q$	166.181	158.942	159.226	150.925	0.011	0.006
CFF_q	0.499	0.000	0.348	0.000	<0.001	<0.001
MtB_q	0.752	0.693	0.756	0.712	0.808	0.236
CE_q	0.153	0.138	0.113	0.119	<0.001	<0.001

Table 2 (Continued)

Panel C: Income Classification Shifting Firm-Quarters by Year

		SHIFT	
Fiscal Year	**Total Number of Firm-Quarters**	**Number of Firm-Quarters**	**Percentage of Firm-Quarters**
1997	321	42	13%
1998	1,919	240	13%
1999	2,801	264	9%
2000	2,374	283	12%
2001	1,228	149	12%
2002	1,174	138	12%
2003	1,175	127	11%
2004	1,141	123	11%
2005	1,188	140	12%
2006	1,195	135	11%
2007	1,211	126	10%
2008	1,235	180	15%
2009	1,355	233	17%
2010	1,369	228	17%
2011	1,325	234	18%
2012	1,233	245	20%
2013	1,274	269	21%
2014	1,252	249	20%
2015	1,291	331	26%
2016	1,404	344	25%
No. of Obs	27,465	4,080	15%

See Table 1 for variable definitions. The full sample consists of 27,465 firm-quarter observations. Panel A reports the descriptive statistics of the variables used in the main analysis. Panel B compares firm characteristics in the earnings management subgroups. In panels A and B, all variables, except indicator variables, are winsorized at the 1st and 99th percentiles. Panel C tabulates the number of firm-quarters and percentage of firm-quarters that contain shifted core earnings.

Table 3
Pearson (Spearman) Correlation Matrix

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(1)	$Shift_q$	1.000	**0.184**	**0.081**	**-0.025**	**-0.043**	**0.096**	0.005	**0.043**	**0.046**	**0.081**
(2)	$Con\_Special_q$	**0.184**	1.000	**-0.245**	**-0.030**	**-0.063**	**0.215**	**0.068**	**0.028**	**0.115**	**0.300**
(3)	$NCon\_Special_q$	**0.081**	**-0.245**	1.000	**-0.027**	**-0.028**	**0.057**	*-0.011*	0.007	-0.007	**0.123**
(4)	$TaxRate_{q-1}$	**-0.044**	**-0.087**	**-0.034**	1.000	**0.047**	**0.109**	**0.079**	**0.069**	**0.040**	**-0.074**
(5)	$Zscore_{q-1}$	**-0.088**	**-0.073**	**-0.080**	**0.085**	1.000	**0.019**	-0.008	0.000	-0.004	**-0.053**
(6)	$InstHoldings_{q-1}$	**0.100**	**0.232**	**0.058**	**0.024**	**0.127**	1.000	**0.169**	**0.238**	**0.223**	**0.366**
(7)	$MktShare_{q-1}$	**0.032**	**0.117**	0.005	**0.151**	**0.066**	**0.333**	1.000	**0.129**	**0.137**	**0.050**
(8)	$BigN_q$	**0.043**	**0.028**	0.007	**0.059**	0.007	**0.224**	**0.265**	1.000	**0.192**	**-0.160**
(9)	$LongTenure_q$	**0.046**	**0.115**	-0.007	-0.003	**0.112**	**0.212**	**0.229**	**0.192**	1.000	**0.125**
(10)	SOX_q	**0.081**	**0.300**	**0.123**	**-0.153**	**0.018**	**0.399**	**0.072**	**-0.160**	**0.125**	1.000
(11)	$HighNOA_{q-1}$	**0.079**	**0.082**	***0.015***	**0.084**	**0.036**	**0.324**	**0.363**	**0.334**	**0.156**	**-0.094**
(12)	$OpCycle_{q-1}$	**0.017**	0.008	**-0.063**	**-0.167**	**0.102**	**-0.089**	**-0.202**	**-0.088**	**-0.031**	**-0.118**
(13)	CFF_q	**0.111**	**0.184**	**0.111**	**-0.066**	**-0.022**	**0.383**	**0.187**	**0.124**	**0.129**	**0.426**
(14)	$LogAssets_{q-1}$	**0.148**	**0.237**	**0.098**	**0.025**	**-0.055**	**0.546**	**0.594**	**0.334**	**0.283**	**0.309**
(15)	ROA_{q-1}	**-0.095**	**-0.052**	**-0.036**	**0.101**	**0.554**	**0.146**	**0.209**	**0.084**	**0.102**	**0.053**
(16)	MtB_q	-0.006	**0.026**	-0.006	**-0.098**	**0.386**	**0.141**	**0.085**	**0.070**	**0.057**	**0.116**
(17)	$PredREM_q$	**0.135**	**0.157**	**0.073**	**-0.055**	**-0.112**	**0.201**	**0.119**	**0.063**	**0.092**	**0.213**
(18)	$PredAEM_q$	**0.106**	**0.048**	**0.064**	**-0.022**	**-0.044**	-0.004	-0.007	0.010	**0.038**	**0.031**
(19)	$UnREM_q$	**-0.072**	**0.000**	**-0.046**	-0.004	**0.041**	**-0.036**	**-0.050**	**-0.024**	**-0.018**	**-0.027**
(20)	$UnAEM_q$	**-0.098**	**-0.033**	**-0.056**	0.003	**0.057**	0.007	***0.012***	*-0.011*	**-0.019**	**-0.017**

		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
(1)	$Shift_q$	**0.079**	***0.013***	**0.111**	**0.143**	**-0.049**	-0.002	**0.115**	**0.081**	**-0.042**	**-0.065**
(2)	$Con\_Special_q$	**0.082**	-0.008	**0.184**	**0.231**	**-0.019**	**0.028**	**0.118**	**0.018**	**0.024**	0.005
(3)	$NCon\_Special_q$	***0.015***	**-0.060**	**0.111**	**0.096**	-0.006	-0.003	**0.075**	**0.060**	**-0.042**	**-0.052**
(4)	$TaxRate_{q-1}$	**0.116**	**-0.129**	*-0.011*	**0.113**	**0.230**	**-0.080**	***-0.015***	**-0.016**	-0.001	-0.001
(5)	$Zscore_{q-1}$	-0.006	**0.064**	**-0.044**	**-0.072**	**0.165**	**0.209**	**-0.036**	**0.023**	-0.013	**-0.025**
(6)	$InstHoldings_{q-1}$	**0.342**	**-0.122**	**0.359**	**0.526**	**0.156**	**0.130**	**0.153**	***-0.013***	***-0.014***	**0.017**
(7)	$MktShare_{q-1}$	**0.213**	**-0.119**	**0.118**	**0.370**	**0.094**	**0.082**	**0.018**	0.007	-0.003	0.001
(8)	$BigN_q$	**0.334**	**-0.109**	**0.124**	**0.326**	**0.082**	**0.065**	**0.042**	-0.009	**-0.020**	0.002
(9)	$LongTenure_q$	**0.156**	**-0.041**	**0.129**	**0.287**	**0.083**	**0.056**	**0.067**	0.008	0.007	0.008
(10)	SOX_q	**-0.094**	**-0.119**	**0.426**	**0.308**	**0.038**	**0.108**	**0.164**	0.000	**0.019**	**0.024**
(11)	$HighNOA_{q-1}$	1.000	**-0.043**	**0.170**	**0.546**	**0.128**	**0.071**	**0.139**	**-0.028**	**-0.031**	**0.019**
(12)	$OpCycle_{q-1}$	**-0.040**	1.000	**-0.128**	**-0.222**	**-0.100**	**-0.019**	0.007	0.003	-0.009	0.002
(13)	CFF_q	**0.170**	**-0.124**	1.000	**0.520**	**0.064**	**0.117**	**0.072**	***-0.015***	**0.022**	**0.029**
(14)	$LogAssets_{q-1}$	**0.563**	**-0.209**	**0.527**	1.000	**0.185**	**0.124**	**0.231**	**-0.027**	**-0.017**	**0.031**
(15)	ROA_{q-1}	**0.129**	**-0.064**	**0.079**	**0.151**	1.000	**0.090**	**0.069**	**0.025**	-0.004	*-0.011*
(16)	MtB_q	**0.080**	**-0.020**	**0.124**	**0.145**	**0.380**	1.000	**-0.041**	**0.047**	**-0.027**	**-0.023**
(17)	$PredREM_q$	**0.197**	-0.006	**0.089**	**0.318**	**-0.084**	**-0.039**	1.000	**0.809**	**-0.140**	0.002
(18)	$PredAEM_q$	**-0.022**	**-0.026**	0.001	0.013	**-0.109**	**0.106**	**0.659**	1.000	**-0.448**	**-0.027**
(19)	$UnREM_q$	**-0.046**	***0.013***	-0.001	**-0.083**	**0.060**	**-0.046**	**-0.208**	**-0.404**	1.000	-0.004
(20)	$UnAEM_q$	**0.020**	***0.013***	**0.017**	-0.003	**0.120**	**-0.076**	**-0.250**	**-0.426**	**0.178**	1.000

See Table 1 for variable definitions. There are 27,465 firm-quarter observations. Pearson (Spearman) correlations are above (below) the diagonal. All variables except indicator variables are winsorized at 1st and 99th percentiles. Numbers in bold, bold italics and italics are significant at 0.01, 0.05 and 0.10 level (two-tailed), respectively.

Table 4
Logistic Analysis of the Probability of Classification Shifting with Continuous and Non-Continuous Special Items

Independent Variables	Predicted Sign	Estimated Coefficient	Cluster Robust z-Stat	p-value (one-tailed)
$Intercept_q$		-3.718	-11.19	0.000
$Con\_Special_q$	+	1.136	14.95	0.000
$NCon\_Special_q$	+	0.906	11.09	0.000
$Mean\_Con\_Special_q$	+	0.008	3.48	0.001
$Mean\_NCon\_Special_q$	+	0.013	5.14	0.000
$TaxRate_{q-1}$	+	-0.097	-0.70	0.483
$Zscore_{q-1}$	?	-0.025	-1.79	0.073
$InstHoldings_{q-1}$	?	0.412	3.56	0.000
$MktShare_{q-1}$	-	-0.436	-2.15	0.031
$BigN_q$	?	0.089	1.13	0.260
$LongTenure_q$	?	-0.030	-0.58	0.560
SOX_q	?	0.555	4.73	0.000
$HighNOA_{q-1}$	+	-0.009	-0.11	0.913
$OpCycle_{q-1}$	-	0.001	1.61	0.107
CFF_q	+	0.132	2.02	0.043
$LogAssets_{q-1}$	?	0.148	4.22	0.000
ROA_{q-1}	?	-2.881	-4.30	0.000
MtB_q	?	-0.070	-1.62	0.106
$PredREM_q$	-	0.264	1.07	0.285
$PredAEM_q$	-	0.269	0.40	0.692
$UnREM_q$	-	-0.293	-4.50	0.000
$UnAEM_q$	-	-0.157	-1.08	0.281
Industry Effects			Yes	
Year Effects			Yes	
No. of Obs.			27,465	
Psuedo-R^2			10.79%	
Test of $\alpha_1>\alpha_2$		$\chi2(1)$ =10.70, p=0.001		

Table 4 presents the results of estimating equation (2) as follows:
$(Prob\ Shift=1) = \alpha_0 + \alpha_1 Con\_Special_q + \alpha_2 NCon\_Special_q + \alpha_3 Mean\_Con\_Special_q + \alpha_4 Mean\_NCon\_Special_q + \alpha_{5\text{-}8}$ REM Constraints + $\alpha_{9\text{-}14}$AEM Constrains + $\alpha_{15\text{-}17}$ Controls + ε_q.

See Table 1 for variable definitions. REM is real earnings management and AEM is accrual earnings management. z-statistics are based on robust standard errors clustered by firm and quarter. All variables except indicator variables are winsorized at the 1st and 99th percentiles.

Table 5

Logistic Analysis of the Probability of Classification Shifting for First and Last Continuous and Non-Continuous Special Items

Independent Variables	Predicted Sign	Estimated Coefficient	Cluster Robust z-Stat	p-value (One-tailed)
$Intercept_q$		-3.713	-11.14	0.000
$Con\_Special_q$	+	1.114	14.47	0.000
$Ncon\_Special_q$	+	0.916	7.72	0.000
$Con\_Special_q \times FIRST$	+	0.245	3.56	0.000
$Ncon\_Special_q \times FIRST$	-	-0.150	-1.93	0.054
$Con\_Special_q \times LAST$	-	-0.020	-0.23	0.821
$Ncon\_Special_q \times LAST$	-	0.006	0.07	0.942
$Mean\_Con\_Special_q$	+	0.007	3.38	0.001
$Mean\_NCon\_Special_q$	+	0.013	5.21	0.000
$TaxRate_{q-1}$	+	-0.097	-0.70	0.482
$Zscore_{q-1}$	?	-0.026	-1.80	0.071
$InstHoldings_{q-1}$	?	0.411	3.53	0.000
$MktShare_{q-1}$	-	-0.435	-2.14	0.033
$BigN_q$	?	0.086	1.08	0.279
$LongTenure_q$	?	-0.028	-0.55	0.581
SOX_q	?	0.555	4.52	0.000
$HighNOA_{q-1}$	+	-0.009	-0.11	0.911
$OpCycle_{q-1}$	-	0.001	1.62	0.106
CFF_q	+	0.141	2.14	0.033
$LogAssets_{q-1}$	?	0.147	4.20	0.000
ROA_{q-1}	?	-2.908	-4.32	0.000
MtB_q	?	-0.069	-1.58	0.114
$PredREM_q$	-	0.248	0.99	0.321
$PredAEM_q$	-	0.320	0.46	0.643
$UnREM_q$	-	-0.293	-4.51	0.000
$UnAEM_q$	-	-0.167	-1.14	0.254
Industry Effects			Yes	
Year Effects			Yes	
No. of Obs.			27,465	
Psuedo-R^2			10.85%	
Test of $\alpha_1>\alpha_2$		$\chi2(1)$ =3.27	p=0.070	
Test of $\alpha_1+\alpha_3>\alpha_2+\alpha_4$		$\chi2(1)$ =17.04	p=0.000	
Test of $\alpha_1+\alpha_5>\alpha_2+\alpha_6$		$\chi2(1)$ =0.11	p=0.739	

Table 5 presents the results of estimating equation (8) as follows:
$Prob(Shift=1) = \alpha_0 + \alpha_1 Con\_Special_q + \alpha_2 NCon\_Special_q + \alpha_3 Con\_Special_q \times FIRST + \alpha_4 NCon\_Special_q \times FIRST + \alpha_5 Con\_Special_q \times LAST + \alpha_6 NCon\_Special_q \times LAST + \alpha_7 Mean\_Con\_Special_q + \alpha_8 Mean\_NCon\_Special_q + \alpha_{9\text{-}12}$ REM Constraints + $\alpha_{13\text{-}18}$AEM Constrains + $\alpha_{19\text{-}25}$Controls + ε_q.

See Table 1 for variable definitions. REM is real earnings management and AEM is accrual earnings management. z-statistics are based on robust standard errors clustered by firm and quarter. All variables except indicator variables are winsorized at the 1st and 99th percentiles.